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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,636	09/13/2005	Christoph Baumhof	BAUMHOF 1	4945

	EXAMINER
1444 7590 02/01/2007	BATICH, DENNIS P
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WASHINGTON, DC 20001-5303	

ART UNIT	PAPER NUMBER
2109	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

Office Action Summary	Application No.	Applicant(s)
	10/518,636	BAUMHOF ET AL.
	Examiner	Art Unit	
	Dennis P. Batich	2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>9/13/2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>10 - 17</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>10 - 17</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Specification

1.   Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:
(1) if a machine or apparatus, its organization and operation;
(2) if an article, its method of making;
(3) if a chemical compound, its identity and use; .
(4) if a mixture, its ingredients;
(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

2.   Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3.   From the MPEP Chapter 0700 701 Statutory Authority for Examination – 35

U.S.C. 100. Definitions:

   (b) The term "process" means process, art, or method, and includes a new use of

   a known process, machine, manufacture, composition or matter, or material.

4.   The abstract of the disclosure is objected to because of:

   a) The use of the words "The invention relates to" these words should be more

      specific. See examples of abstracts given in the MPEP § 608.01(b) E.

      Correction is required.

   b) The use of the word "said" as delineated in the MPEP § 608.01(b) C.

5.   The following guidelines illustrate the preferred layout for the specification of a

utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

        As provided in 37 CFR 1.77(b), the specification of a utility application should
include the following sections in order. Each of the lettered items should appear in
upper case, without underlining or bold type, as a section heading. If no text follows the
section heading, the phrase "Not Applicable" should follow the section heading:

        (a) TITLE OF THE INVENTION.
        (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
        (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR
                DEVELOPMENT.
        (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
        (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A
                COMPACT DISC.
        (f) BACKGROUND OF THE INVENTION.
                (1) Field of the Invention.
                (2) Description of Related Art including information disclosed under 37
                CFR 1.97 and 1.98.
        (g) BRIEF SUMMARY OF THE INVENTION.
        (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A
   "Sequence Listing" is required on paper if the application discloses a
   nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if
   the required "Sequence Listing" is not submitted as an electronic
   document on compact disc).

6.   The specification is objected to for the following reasons:

a) Title and section headings should be in upper case.

b) The underlining of the title should be removed – MPEP 608.01(a)[R-5].

c) Section headings are missing. These should be added – MPEP 608.01(a)[R-5].

d) All sections should be ordered as set forth in MPEP 608.01(a)[R-5].

e) Add line numbers to specification.

f) There is a grammatical error on the first page, third paragraph, 4th line up from

    the bottom, of the specification that currently reads, "the data disappear from the

    volatile flag memory." This should be corrected.

Claim Rejections - 35 USC § 112

7.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

   The specification shall conclude with one or more claims particularly pointing out and distinctly
   claiming the subject matter which the applicant regards as his invention.

8.   Claims 10 – 17 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

9.   Claim 14 is indefinite, failing to conform with current U.S. practice. Claim 14

appears to be a literal translation into English from a foreign document and contains a

grammatical and idiomatic error, specifically the claim states, "... and a still erased

blocks are initialized accordingly."

10.   Claims 10 - 17 are incomplete for omitting essential features, such omission

amounting to a gap between the steps. See MPEP § 2172.01. An incomplete example

of omitted steps for claim 10 are:

a) Records are stored in nonvolatile memory.

b) Records are updated in nonvolatile memory.

c) Records are lost from volatile memory.

d) Records are restored from nonvolatile memory to volatile memory.

11.   Furthermore, there is a lack of overall clarity in the claims. For example, claim 10

states, "A method for restoring administrative data records of a nonvolatile memory ..."

The examiner believes this to imply flash memory, which is by definition a nonvolatile

memory. The question arises to one of ordinary skill as to why if the memory is

nonvolatile (flash memory), would its administrative data records need to be restored.

The language of the claim is not clear. If method steps had been noted the examiner

believes there would have been clarity to the claim and the following dependent claims.

12.   Claims 10 - 17 provide for the use of restoring administrative data records, but

since the claims do not set forth any steps involved in the method/process, it is unclear

what method/process applicant is intending to encompass. A claim is indefinite where it

merely recites a use without any active, positive steps delimiting how this use is actually

practiced.

13.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

14.   Claims 10 - 17 are rejected under 35 U.S.C. 101 because the claimed recitation

of a use, without setting forth any steps involved in the process, results in an improper

definition of a process, i.e., resulting in claims which are not proper process claims

under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967)

and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

15.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16.   Claim 10 – 17 rejected under 35 U.S.C. 102(b) as being anticipated by Larner, et

al. (US 6,104,638), hereinafter "Larner".

In reference to claim 10, Larner teaches a method for restoring administrative

data records including:

a) The use of a non-volatile memory otherwise known as a flash memory.

(Larner's patent also utilizes a nonvolatile memory as specified starting in

column 2, line 18, "In addition, the system uses nonvolatile memory (106,

108, and 110). In a specific example embodiment of the invention,

segmented (or blocked) flash memory is used ..." Larner depicts the

nonvolatile memory in Figure 1 - 106, 108, and 110.)

b) The use of a volatile memory. (Larner specifies the use of a volatile

memory or RAM, for example starting in column 2, line 17, he writes, "The

system also uses volatile RAM 104.")

c) The use of a memory controller. (Larner specifies the use of a processor

in conjunction with RAM and firmware. Figure 1 provides a physical

configuration of Larner's system. Larner elaborates on his system in

column 2, starting on line16, "A processor 100 is controlled by firmware

102, which may be in ROM. The system also uses volatile RAM 104.")

d) A method for restoring administrative data. (Larner teaches the

restoration of data as specified in column 2 starting on line 40, "Provision

for power-failure, to ensure that no data is lost if power is lost during

transfer of data from one memory segment to another or during the writing

of data." Also, in column 2, lines 61 to 67 and column 3, lines 1 and 2, -

Larner specifies that one of the data types that could possibly be stored is

administrative information.)

e) Records that are written in units of sectors and erased in units of blocks.

(Larner teaches writing to a sector in column 1, lines 57 –58 and erasing

in units of blocks in column 2, lines 22 – 25.)

f) The use of a reconstruction table that is composed of contiguous

segments. (Larner teaches the use segments to form a table structure, for

example in column 1 starting on line 49 where he writes, "At least two

segments are used." This is also shown in figure 1 where contiguous

segments are shown starting with 106 and going to the nth segment in

110 of figure 1.)

g) That in one or more memory blocks of the nonvolatile memory a

contiguous reconstruction table is continually updated. (Larner teaches

the use of contiguous memory in nonvolatile memory as described in

column 1, lines 53 – 56. Larner further teaches continuous updating of the

contiguous nonvolatile memory as detailed starting in column 3, line 59

through line 27 of column 4.)

h) Reconstructing memory after a restart from power failure. (Larner teaches

this in column 4, lines 29 – 39, and in column 2, lines 40 – 42.)

i) The reconstruction table is reorganized when it becomes full creating an

initial state for administrative records in both volatile and nonvolatile

memory. (Larner teaches the use of data structures in both volatile and

nonvolatile memory in column 3, lines 59 –62, data reorganization when a

data table becomes full in column 4, lines 1 – 12, creating a new data

table prior to erasing an old one in column 4, lines 28 – 29, and data

structure reorganization in both volatile and nonvolatile memory in column

5, lines 38 – 55.)

j) The start of the reorganization is recorded as the last entry in the reconstruction table. (Larner teaches the delineation of new and old memory tables in column 4, lines 51 – 57.)

In reference to claim 11, Larner teaches the method of claim 10, additionally: Applicant states every entry in the reconstruction table is one sector or one sector segment long. (Larner teaches working with data structures in column 3, lines 59 – 62. Larner's patent also details working with segments as for example in column 1, starting on line 47, he writes, "… segmented flash memory is used, in which individual segments can be erased," and on line 57, "When a new segment is written, the new segment is written using the values from RAM.")

In reference to claim 12, Larner teaches the method of claim 10, additionally: Applicant states that if there is a power failure the administrative data records of flag memory are restored and that this may occur more than one time. (Larner teaches this in column 2 on line 40, "Provision for power-failure, to ensure that no data is lost if power is lost during transfer of data from one memory segment to another or during writing of data." He further exemplifies recovery from power failure in column 4, lines 33 – 39, in column 5 starting on line 2 to the end of the paragraph, and in the second paragraph of column 5 starting on line 23. Larner teaches the use of flag memory in column 2, lines 46 – 60.)

In reference to claim 13, Larner teaches the method of claim 10, additionally:

Applicant marks and counts each reorganization and completion within a table.

(Larner teaches the use of a reorganization counter and details it in column 4 on

lines 52 – 56. Larner also teaches the use of a determination in column 5, lines

15 – 22 for determining whether a table is complete.)

In reference to claim 14, Larner teaches the method of claim 13, additionally:

The applicant releases previously used memory blocks for erasing and reuse.

(Larner teaches that previously used memory blocks are erased and reused in

column 4, lines 1 – 12. Larner also teaches us that these memory areas are

initialized as exemplified in column 2, lines 29 – 31.)

In reference to claim 15, Larner teaches the method of claim 14, additionally:

The applicant uses a field for signifying completion of a reconstructed table.

(Larner teaches the use of a table completion determination in column 5, lines 15

– 22.)

In reference to claim 16, Larner teaches the method of claim 10, additionally:

The applicant maintains as part of the administrative data records a table for

pointing to invalid blocks in nonvolatile memory. (Larner teaches us in column 6,

lines 1 – 9, the use of a memory map for locating defective blocks of nonvolatile

memory.)

In reference to claim 17, Larner teaches the method of claim 12, additionally:

The applicant updates the block pointer tables with the aid of a table of invalid

block pointers. (Larner teaches the use of multiple blocks in column 1, line 49,

and in Figure 1 which show 1 to n segments. Larner teaches in column 1, line

28, that segment and block are synonymous for nonvolatile or flash memory.

Larner teaches incorporating invalid blocks into the block selection process

starting on line 62 of column 5, through line 13 of column 6.)

Conclusion

17.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

   a. Sinclair, et al. (US 6,725,321 B1) discloses a system, method, and program for

      restoring data records of a memory system physically comprised of a controller,

      nonvolatile memory, and volatile memory.

   b. Tomori (US 6,513,095 B1) discloses a system, method, and program for

      maintaining a file system, state information, and data integrity of a nonvolatile

      memory.

   c. Niijima, et al. (US 5,598,370) discloses a system, method, and program for

      nonvolatile memory with cluster-erase flash capability, address translation, and

      address table reconstruction.

    d. <u>Lin et al.</u> (US 6,427,186 B1) discloses a system, method, and program for a

       nonvolatile memory mapping utilizing a controller with volatile memory.

    e. <u>Keays</u> (US 6,984,026 B2) discloses a system, method, and program for erase

       block management of flash memory utilizing a controller with RAM that utilizes

       address translation and mapping.

    f. <u>Holzhammer</u> (US 5,519,831) discloses a system, method, and program for

       storing data from a volatile memory during power loss utilizing volatile memory,

       nonvolatile memory, and a microcontroller.

    g. <u>Fujimoto et al.</u> (US 6,377,500 B1) discloses a system, method, and program for a

       memory system with a nonvolatile memory having an address translating
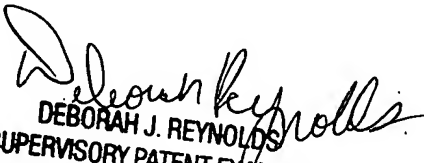
       function.

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Dennis P. Batich whose telephone number is 571-270-
1755. The examiner can normally be reached on Monday-Friday, 7:30am-5:00pm est
alt Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor Deborah Reynolds can be reached on 571-272-4919. The fax phone
number for the organization where this application or proceeding is assigned is 571-
273-8300.

Information regarding the status of an application may be obtained from the

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DPB

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